

Student Winners of DHHS 1995 Secretary's Award for Innovations in Health Promotion and Disease Prevention

Each year, the Secretary of Health and Human Services hosts a competition for the Secretary's Award for Innovations in Health Promotion and Disease Prevention. The contest is sponsored by the Department of Health and Human Services and administered by the Health Resources and Services Administration of the Public Health Service in cooperation with the Federation of Associations of Schools of the Health Professions.

The first place proposal and the abstracts from the two proposals that tied for second place are presented herewith. Each was edited for publication to conform to PHR style. The authors and titles of the 17 proposals that were runners-up follow.

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Prenatal Power— Education for Life

SYNOPSIS

Objective. To expand community service opportunities in health promotion and disease prevention for approximately 20% of the female students at Boston High School, who are pregnant or parenting.

Methods. Students at Tufts University School of Medicine created, organized, and taught an interactive curriculum encompassing pre- and postnatal health at Boston High School. Evaluation of program effectiveness is provided by questionnaires completed by participating high school students, medical students, and the high school Health Services Advisor.

Results. Short-term outcomes will examine self-esteem, prenatal care knowledge and decision making behavior. Long-term followup will assess outcomes such as birth weight complications, educational status of parents, additional pregnancies, and child health.

Located in downtown Boston near Tufts University School of Medicine, Boston High School (BHS) draws students from all Boston neighborhoods, including those from the areas with the highest prevalence of poverty in the Boston school system. The enrollment of 1100 is 50% African American, 33% Hispanic, and 16% white, with girls outnumbering boys. An estimated 20% of female students are pregnant or parenting at any given time.

BHS has a Student Health Center (SHC) onsite, which is a satellite of the Adolescent Clinic at New England Medical Center, the main teaching hospital

of Tufts School of Medicine. During the 1994–1995 school year, pregnant and parenting case managers at SHC counseled 134 students, approximately half the number estimated to need counseling, according to SHC staff members.

In an attempt to accentuate the concepts of community service, health promotion, and disease prevention in medical education, a group of first and second year medical students from Tufts approached BHS administrators. Overwhelmed by the high proportion of pregnant and parenting students, SHC staff members expressed a need for assistance. Thus, the birth of the project we call Prenatal Power: Education for Life.

Literature Summary

Approximately 6600 children are born to Massachusetts teenagers each year. The vast majority of these mothers are unmarried and raising their children alone with minimal family support.¹ Giving birth during adolescence imparts long-term consequences for both mother and child that include a 50% reduction in the likelihood of high school completion, increased unemployment, and dependence on welfare.^{2–4}

In addition to the socioeconomic consequences of adolescent childbearing, a multitude of negative medical outcomes may result. In early adolescent pregnancy, there is an elevated risk of severe complications such as toxemia, cephalopelvic disproportion, and abruptio placentae.³ Repeated pregnancies at this stage in life also can increase the risk of perinatal death.^{5,6}

Lack of prenatal care, another characteristic of these pregnancies, can result in a disproportionate number of low birth weight babies and increased risk of birth defects and developmental delays. Although good comprehensive prenatal care can reduce the risk of such outcomes, there are significant barriers for teenage mothers to prenatal care. In 1990, only 55% of teenage women in Boston received adequate care.⁷ In general, adolescents have the lowest rate of physician office visits of any age group. Furthermore, a regular source of health care is even less common for African American and Hispanic populations, constituting another of the many barriers facing the students at BHS.⁸

In pregnancy and dropout prevention programs among high-risk adolescents an effective approach combines services that address the educational, human, and health needs of each teenager.⁹ Studies show that pregnant and parenting students attending a comprehensive, school-based program were more likely to continue their education, become employed, and avoid subsequent pregnancy.^{10–12} Medical outcomes, such as low birth weight, postpartum care compliance, and maternal-infant morbidity and mortality are also improved among participants in similar prenatal programs.^{13,14}

Finally, when teenage fathers stay involved with a pregnancy, the teenage mother and the newborn child have positive outcomes. Thus, this project actively encourages involvement of teen fathers. Unfortunately, 85% of the fathers of children born to teen mothers are older than age 20 and are no longer in high school, thereby hampering efforts to include them.¹⁵

Prenatal Power aims to increase the self-confidence and decision making skills of high-risk teens in an effort to support continued education and betterment of socioeconomic status, prevent future pregnancies, and improve adolescent outcomes.

Project Objectives

The objectives of the Tufts-BHS Prenatal Power project for high school students include

- Identification of students at highest risk for early and repeated pregnancies and facilitation of informed decision making.
- Encouragement and assistance of pregnant and parenting teens in completing their education by promoting self-confidence and self-esteem, helping them cope with responsibility, and establishing leadership and teaching skills.
- Assistance of students who are pregnant or parenting in identifying and effectively using school- or community-based health and human services.
- Promotion of healthy prenatal and parenting behaviors among high school students.
- Creation and continued enrichment of a curriculum and written materials about prenatal care addressed and brought directly to adolescents in high school.

Objectives for medical students include

- An increased understanding of the biological, psychological, and emotional consequences of adolescent pregnancy.

- Exposure to community-based primary care services and development of an understanding of the unique health needs and perspectives of urban, socioeconomically disadvantaged adolescents.
- Personal involvement in health promotion and preventive prenatal care in the community.
- Experience in developing, organizing, implementing, and teaching in a school-health program for health promotion and prevention.

Methods

First and second year students from Tufts University School of Medicine are recruited and participate in a training session led by the SHC Coordinator. They are required to observe peer leadership or sexuality education classes at Boston High School to orient them to the population and environment. The Tufts students then prepare educational

and informational sessions on prenatal and postnatal care and give preliminary presentations to SHC staff members for critique and support prior to each class. Sessions strongly encourage active participation by the high school students and emphasize leadership development, including shared personal experiences, role play, and participation in educational games. Parenting teenagers attend and occasionally teach an entire class.

Groups of three medical students facilitate discussions. These groups are composed of male and female students and attempt to represent a variety of ethnic backgrounds to establish the medical students as role models. The curriculum consists of 10 one-hour sessions held weekly during the high school lunch period. SHC staff members help with identification and outreach to pregnant students. Flyers are posted, and advertisements are placed in the school newspaper. Educational materials, nutritious food, and infant care packages are also provided. This past year, gift certificates

Sample Curriculum of Classes on Prenatal and Postnatal Care Conducted at Boston High School by Tufts Medical Students

Session 1. Decision Making

- Assessment of all available options
- Prioritization—qualitative and quantitative
- Pros and cons of various options
- Recognition of external influences on decisions
- Self-empowerment and self-esteem

Session 2. Anatomy, Conception, Growth, and Development

- Anatomy, general
- Progression of process: fertilization, implantation
- Events of each trimester
- Changes in the mother's body—weight gain, breasts, bladder, waistline
- Changes in the fetus—size, limbs, facial, organs

Session 3. Prenatal Visit

- Fetal/uterine measurement
- Maneuvers—localization of the fetus
- Doppler/fetal heart sounds and placental blood flow
- Blood tests—diabetes, alpha-fetoprotein—signs and symptoms of pregnancy

Session 4. Nutrition and Exercise

- Daily diet—examples of a balanced meal
- Exercise—safe and unsafe activities
- Normal weight gain expectations
- Sex and pregnancy

Session 5. Substance Abuse and Pregnancy

- When and how substances affect the fetus

- Alcohol and smoking Substance abuse support programs
- Addicted babies—other drugs—cocaine, crack, heroin, methadone

Session 6. Sexually Transmitted Diseases and Infections

- HIV, gonorrhea, chlamydia, herpes, syphilis
- How medication effects the fetus

Session 7. Birthing

- Labor—stages, duration, contractions
- Birthing alternatives—positions, breathing
- Pain—medical and nonmedical interventions
- First look at the baby

Session 8. Hospital

- The birthing environment
- Common obstetrical procedures
- Hospital staff—who will be there—visitors and family

Session 9. Going Home and Parenting

- Postpartum depression
- Weight loss and exercise
- Postpartum nutrition
- Frustrations and stresses
- Breast versus bottle feeding
- Fathers—goals in raising a child?—why did you want to be a parent?
- What makes a good parent?

Session 10. Summary, Wrap-up Session

were given to the two adolescents who attended the most classes. In order to provide continuity and establish an environment of understanding and trust, each medical student teaches a minimum of three sessions.

A sample curriculum is shown in the accompanying box. The curriculum is updated annually. A substantial effort to recruit male high school students has been made, and last year one male parent participated. This is an important landmark towards increased father involvement.

Significance of the Project

Prenatal Power aims to increase the self-confidence and decision making skills of high-risk teens in an effort to support continued education and betterment of socioeconomic status, prevent future pregnancies, and improve adolescent outcomes. It provides a supportive environment where questions, doubts, and myths can be discussed with peers.

This project is an important step toward broadening primary care, health promotion, disease prevention, and community involvement at the medical educational level. Standard medical school curriculum and clerkships at tertiary hospitals emphasize identifying and treating disease. In the evolving health care demand for primary care physicians, this project provides medical students an excellent opportunity to work in the community preventing illness. Furthermore, it is also a unique experience for medical students to gain a deeper appreciation and understanding of the life of a pregnant or parenting adolescent in today's urban society.

In addition to the benefits gained by young women, their babies-to-be, and medical students, the high school receives extra support and identification of new pregnant teens. During the last school year, three new students became enrolled in case management services at SHC as a result of participating in Prenatal Power.

This program has already been presented to the New England Public Health Association as the recipient of the 1995 Kovar Memorial Award. To earn the award, the paper on the project had to emphasize the conference theme: "Partnerships in Public Health: New Alliances, Old Friends." As a result, the University of Vermont Medical School has expressed interest in beginning a similar program.

Ways in Which the Project is Innovative

Prenatal Power has several particularly innovative aspects that directly impact the high school student as well as the Tufts medical students.

The high school students are affected by

1. The building of self-confidence and self-empowerment as a means of modifying decision making behaviors instead of assuming that increasing knowledge alone leads to behavior changes. Given that many teen pregnancies are intentional, by encouraging adolescents to anticipate the consequences of their

actions, this project attempts to help the students identify external influences, such as peer pressure, on their decisions.⁴

2. Prenatal Power as an important support group for young parents and parents-to be. The weekly meetings provide a forum for teenagers to share and discuss their fears, discomforts, and difficulties with each other.
3. The project's efforts to involve young males in the pregnancy, birth, and parenting of their children.
4. The prenatal curriculum brought into the environment that the teenager is comfortable with, instead of the often dreaded clinic or physician's office. By doing so, a positive interaction is established between high school students and future health care providers.
5. The Prenatal Power curriculum's emphasis on learning by creative interaction, in contrast to didactic lectures where students remain passive. Further, high school students with parenting experience are encouraged to provide input in both the curriculum and in the classroom.

Similarly, Tufts volunteers are positively impacted as well.

1. Medical students have the rare chance to serve the disadvantaged urban minority community surrounding them. They gain perspective on a patient population and its barriers to access and use of health care.
2. Tufts students learn more about the various aspects of

Prenatal Power Budget Estimate

Activity	Funding	
	On hand ^a	Required
Educational materials		
Books, pamphlets, posters	\$500	\$500
Training program and orientation		
Stipend for speakers, trainers		
orientation time	600	600
Food for 40 people	200	200
Individual sessions		
Food and materials, 10 sessions . . .	1000	1000
Clerical services, coordinator	1000	1000
Xeroxing of handouts, notices, flyers	200	200
Infant care packages for 30 students	1000	...
(Some infant safety items donated, also)		
Program evaluation		
Postage, xeroxing, word and data processing time	1500	1500
Totals	6000	5000
Grand total	\$11,000	

^aFunding by Massachusetts Medical Society, Tufts Student Chapter; Family Medicine Interest Group; and Tufts Student Council.

pregnancy, prenatal and postpartum care early in their education.

3. Prenatal Power provides an opportunity for medical students to build experience in disease prevention and health promotion, a perspective rarely offered in traditional medical education. Ideally, this innovative program will become integrated into the medical school curriculum.

Summary of Evaluation Methods

Evaluation of both short- and long-term outcomes will be made. Current feedback has been very favorable from participating high school students. One student identified, "...the class about you and your child and the decisions that you would make" as the best part of the program. Similarly, another commented that the benefit of the program was, "being able to meet other girls who were in the same situation as you are and hear about their experiences and feelings." Several students asked to stay longer and meet more often.

Short-term evaluation from the BHS student will consist of pre- and post-testing of three parameters—self-esteem and empowerment, reproductive knowledge, and decision making behaviors. In addition, suggestions for course improvement and general satisfaction will be solicited. Medical student instructors evaluate the program in two ways—(a) testing of attitudes and impressions of disadvantaged adolescents before and after the program, and (b) interactive feedback and evaluation during three scheduled "review sessions." Medical student instructors who have already given presentations evaluate their classes, offering highlights to others about what was effective or ineffective. This is also a trouble shooting arena where encountered as well as potential problems are addressed.

The high school health services advisor also critiques the program. This person is in closer contact with the high school students and is best able to evaluate the impact of the program on the these students. The advisor writes up an overall evaluation of the project at the end of each full curriculum.

Graduates of the prenatal classes will be followed for three years, and statistics regarding educational status, additional pregnancies, child health status, and other criteria will be compiled to evaluate the overall success and impact of the project.

In addition to the aforementioned evaluation methods that offer feedback on the immediate effects of the project, a longitudinal evaluation will also be undertaken. Some baseline data describing pregnancy rates, attitudes, beliefs, risk-taking behaviors, and so on, from a school-wide survey is already in existence. Preliminary data exist on students involved in case management services for pregnant or parenting adolescents at BHS. The data suggest that these students are continuing their education, producing healthy birth outcomes and higher than average mean birth weights for teenage births, as well as using a regular pediatric care

provider.¹⁶ These evaluation outcomes on students participating in Prenatal Power will be analyzed separately in comparison with controls.

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